

Homework 22H**Graph $y = ax^2 + c$ and $y = ax^2 + bx + c$** **Mixed Review**

Name: _____

Period: _____ Date: _____

Directions: Show work for all.

1. Factor $t^2 + 8t + 12$	2. Factor $m^2 - 7m + 12$
3. Factor $n^2 + 3n - 18$	4. Factor $y^2 - 5y - 84$
5. Factor $3h^2 + 2h - 16$	6. Factor $6c^2 + 7c + 2$
7. Factor $5p^2 - 22p + 8$	8. Factor $8m^2 - 10m + 3$

Mixed Review

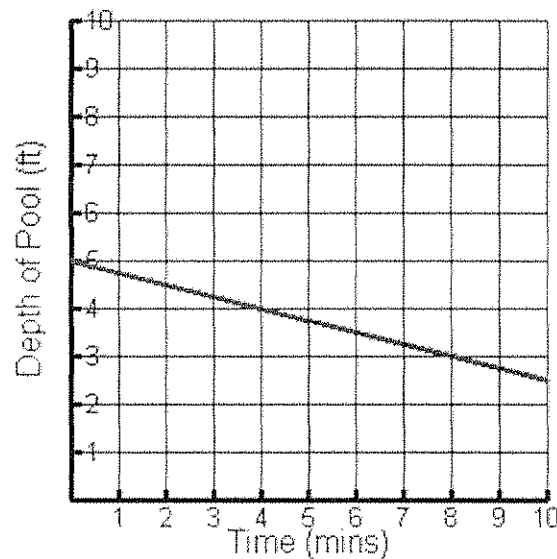
1. What is the solution set of $|5c - 10| < 25$?

- A. $\{c > -3 \text{ or } c < 7\}$
- B. $\{c < -3 \text{ or } c > 7\}$
- C. $\{c < 7 \text{ and } c < -3\}$
- D. $\{c > 7 \text{ and } c < -3\}$
- E. $\{c < 7 \text{ and } c > -3\}$

2. Which of the following identifies exactly those values of z that satisfy $|4z + 12| \geq 36$?

- A. $z \geq 6$
- B. $-12 \leq z \leq 6$
- C. $z \geq 6 \text{ or } z \leq -12$
- D. $-6 \leq z \leq 12$
- E. $z \leq -6 \text{ or } z \geq 12$

3. The water in a swimming pool is initially 5 feet deep. The water is then drained at a constant rate until the pool is empty. The graph below shows the water level $L(t)$ in the tank as a function of time (t).



Which of these functions represents the relationship between the time and water level?

- A. $L(t) = -\frac{1}{4}t + 5$
- B. $L(t) = -\frac{1}{4}t - 5$
- C. $L(t) = -4t + 5$
- D. $L(t) = -4t - 5$
- E. $L(t) = -5t + 4$

5) Two buses leave a bus station located at Madison (0° North) and the State (0° East) or $(0,0)$ in standard coordinate plane. One of the buses moves 10 miles per hour and travel 2 hour north, and then 1 hour west. The other bus moves at 25 miles per hour and travels 3 hours west and then 1 hour north. Which of the following is an expression for the number of miles apart the buss will be in 3 hours after they leave the bust station?

- A) $(2 \times 20) + (2 \times 25)$
- B) $(3 \times 25) + (2 \times 10)$
- C) $\sqrt{(75 - 10)^2 + (25 - 20)^2}$
- D) $\sqrt{(25 - 10)^2 + (75 - 20)^2}$
- E) $\sqrt{(25 - 10)^2 + (25 - 20)^2}$

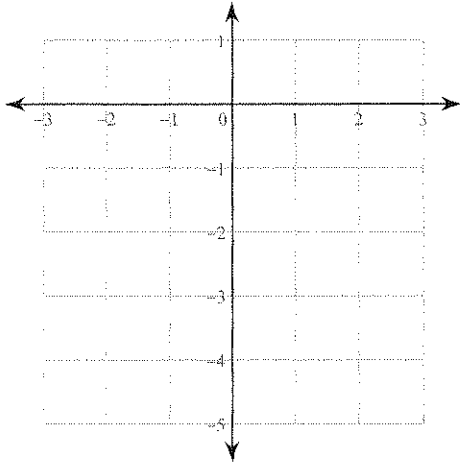
Homework 22H

© 2011 Kuta Software LLC. All rights reserved.

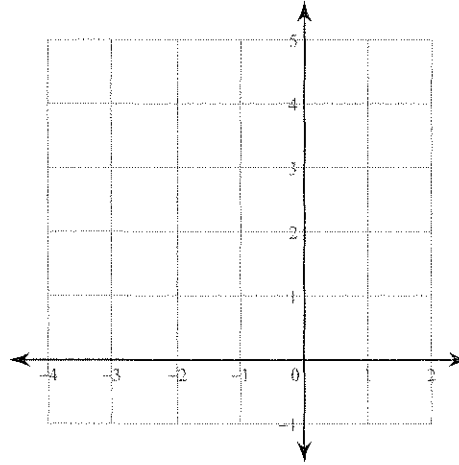
Date _____ Period _____

A) Make a table B) Graph the quadratic function C) Plot vertex and axis of symmetry D) Compare to parent function

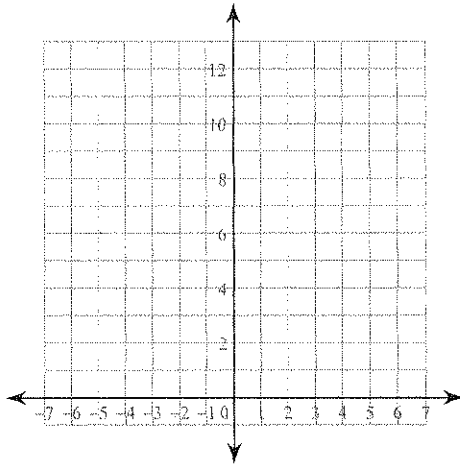
1) $y = -x^2 - 3$



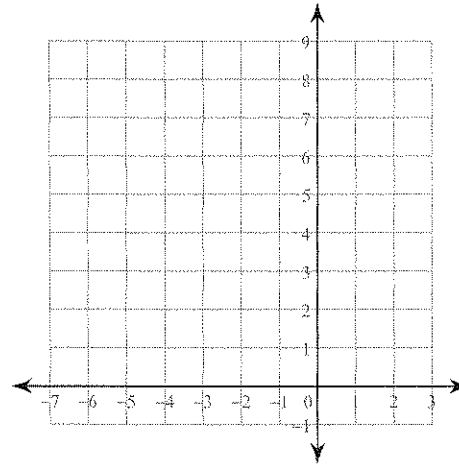
2) $y = x^2$



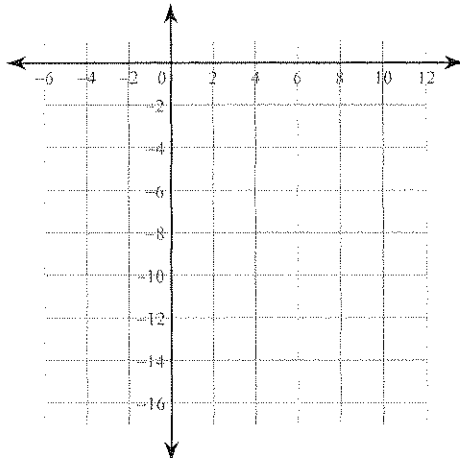
3) $y = 3x^2 + 2$



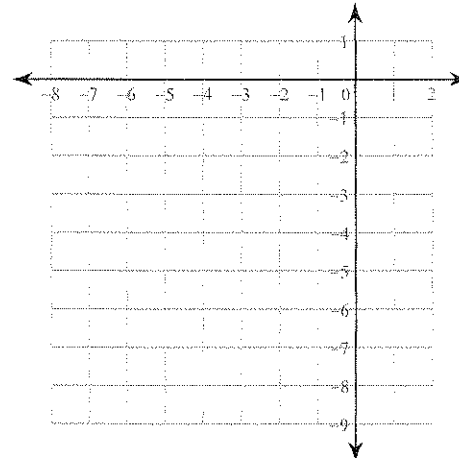
4) $y = 2x^2 + 3$



5) $y = -4x^2 - 6$

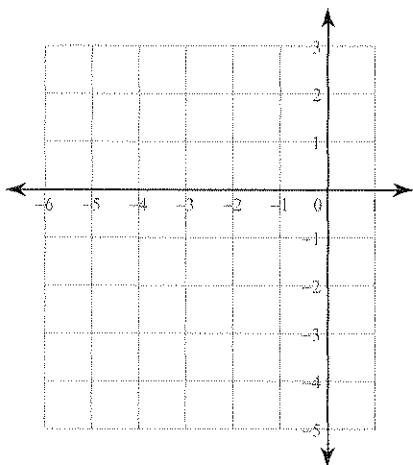


6) $y = -2x^2 - 4$

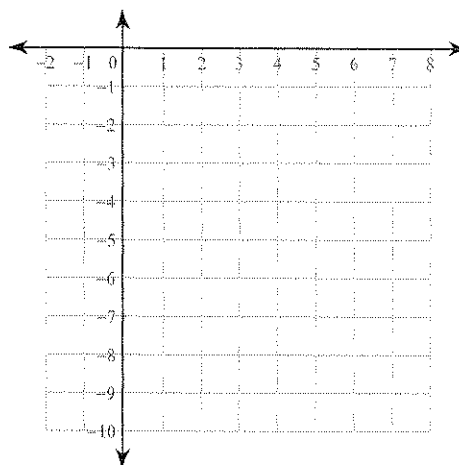


Sketch the graph of each function.

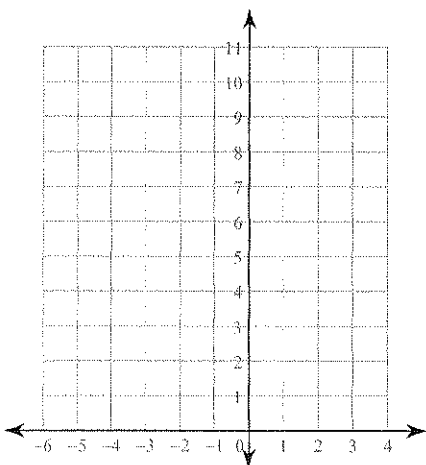
7) $y = x^2 + 8x + 13$



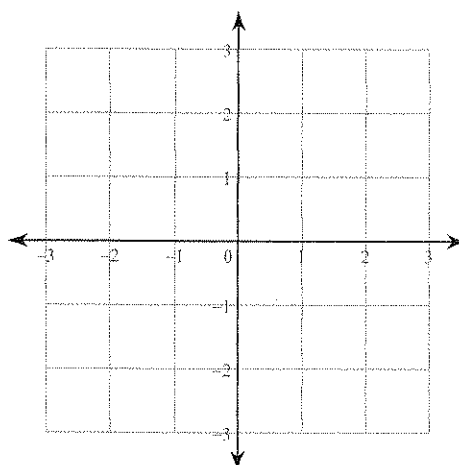
8) $y = -2x^2 + 4x - 3$



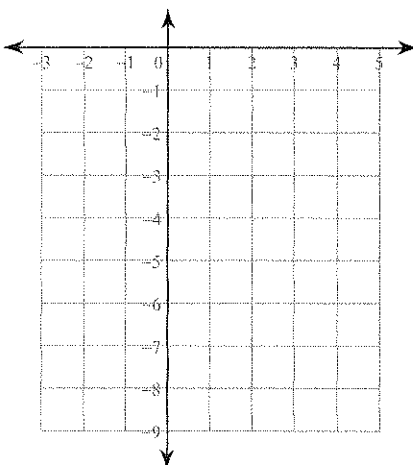
9) $y = 2x^2 - 4x + 4$



10) $y = x^2 - 2x - 1$



11) $y = -x^2 + 4x - 8$



12) $y = x^2 + 4x$

